TROY DUSTER AND ALICE WATERS

## Engaged Learning across the Curriculum

# The Vertical Integration

**This kind of vertical integration of engaged learning has considerable potential to deepen connections between higher education and K–12, and simultaneously to address issues of education and health**

THERE IS A RELATIVELY NEW and decidedly healthy educational movement emerging across the United States, from grade schools to high schools, from community colleges to graduate programs at the nation's most prestigious universities. The movement goes by the name of "engaged learning." One measure of its *au courant* status is the decision of the Association of American Colleges and Universities to devote the full winter 2005 issue of *Peer Review*, a quarterly journal on emerging trends in undergraduate education, to the topic. Yet while an increasing number of educators agree that "engaged learning" is superior to learning that is decontextualized or rote, what they actually mean by *engaged* varies widely.

To help sort out the various usages, Stephen Bowen (2005, 4) has identified four ways of thinking about engagement: as "engagement with the learning process," "engagement with the object of study," "engagement with contexts," and "engagement with the human condition." His taxonomy, by distinguishing students' engagement with different kinds of content and with process, has a clarifying heuristic purpose. As Bowen's account of engagement shows, the nature and applicability of learning depend upon the student's relationship to the subject matter.

While the character of engaged learning as a social movement is new, the idea that students learn best when they are "engaged" is centuries old. John Dewey, the dean of a distinctly American philosophical tradition called pragmatism, founded the University of Chicago Laboratory School on the principle that students would learn best if they were engaged in the process of growing food in a garden, preparing it in the kitchen, and finally bringing it to the table for consumption.

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# of Food for Thought



In *The Metaphysical Club*, Louis Menand (2001, 323) describes how food was used in the school's curriculum:

> One of John Dewey's curricular obsessions was cooking. The children cooked, and served lunch once a week. The philosophical rationale is obvious enough: preparing a meal is goal-directed activity, it is a social activity, and it is an activity continuous with life outside the school. But Dewey incorporated it into the practical business of making lunch: arithmetic (weighing and measuring ingredients, with instruments the children made themselves), chemistry and physics (observing the process of combustion), biology (diet and digestion), geography (exploring the natural environments of plants and animals), and so on.
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> Cooking became the basis for most of the science taught at the school. It turned out to have so much curricular potential that making cereal became a three-year continuous course of study for all children between the ages of six and eight "with no sense of monotony on the part of either pupils or teachers."

This article is about two experiments to integrate food into education: one at the K–12 level, in the public school system in Berkeley, California, and the other at the undergraduate level, at Yale University. Both of these experiments draw on the pedagogically engaging aspects of cultivating, cooking, and eating food. Since food "engages" every human at the beginning of the life cycle, and continues to engage us until nearly our last breath, it cuts across all aspects of social life. No matter one's station, as Shakespeare famously put it in the last lines of Richard II's mournful rumination in his reflections to the Duke of Aumerle, "I live with bread like you, feel want, / Taste grief, need friends: subjected thus, / How can you say to me, I am a king?" It is in this sense that educators have an underutilized opportunity for an across-the-curriculum integration—whereby many disciplines can be more creatively "engaged," and hopefully, can become even more engaging.

**Yale Sustainable Food Project**

### The Berkeley School Lunch Initiative

The Chez Panisse Foundation, in partnership with the Berkeley Unified School District and the Center for Ecoliteracy in Berkeley, has pioneered a project that marries content and process, initiating a bold and comprehensive revamping of the lunch program for Berkeley's entire school system. In fall 2005, Berkeley launched the School Lunch Initiative to transform how school lunches are prepared and served. Even more significantly, from the standpoint of engaged learning, this project will have students tilling the soil and planting,

learning about biochemistry via soil nutrition enrichment, and learning about dietary requirements through cellular biology. The project is being piloted at Berkeley's Martin Luther King Jr. Middle School, where beginning in 2007 students will be served a wholesome, freshly prepared lunch in a new facility that is designed to accommodate informal learning, student-teacher interaction, and student participation.

The goal of this project is to revolutionize both the curriculum and the pedagogy used in Berkeley's schools. Rather than being "simply a school lunch that is nutritious and healthy"—an important and very worthy goal in itself—the Berkeley School Lunch Initiative is designed to engage students across the curriculum in new ways, fostering learning about subjects that have otherwise been compartmentalized and fragmented.

This use of food as a curricular focal point will require a revisiting of pedagogy. Faculty will need to retool, not so much by learning more about biochemistry as by learning how to draw connections between their subject matter and the engaged forms of learning to which their students may be more easily drawn. We are not Pollyannish. There will be hurdles and stumbling blocks, from active resistance to inertia and indifference. That is inevitable when institutional and organizational changes of this magnitude are proposed. Berkeley's

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initiative will also be working against recent trends, since it is being launched at a time when many public school systems are subsidized by large corporations that open fast-food franchises and place soda vending machines on school grounds.

Because guidelines for daily required nutrients have been under a sustained and successful assault by the food industry as well, the role of an informed citizenry has become increasingly important. Every five years, the Institute of Medicine's Food and Nutrition Board reviews and updates recommended daily allowances for intake of proteins, fats, and carbohydrates.

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Despite a wide range of studies indicating that Americans should decrease their fat consumption, the most recent report suggests that we *increase* our fat intake from 30 percent to 35 percent (Food and Nutrition Board 2002; see also Campbell and Campbell 2004). Worse still, the report tells us that added sugars should comprise no more than 25 percent of total calories—as if that figure, which refers to sugars added to foods and beverages during production, was acceptable. The major sources of such sugars are candy, soft drinks, fruit drinks, and heavily sugared cakes, pies, and pastries.

This may be the time to place a foot in the door and propose a new way of thinking about food in schools. First, with an epidemic of diabetes among youth, and more public awareness of the sharp increase in childhood obesity across the nation, we may be primed, if not fully prepared, for the introduction of an innovative alternative. The four-part front-page series on the diabetes epidemic published by the *New York Times* in January 2006 is one example of this growing attention to the health crisis we now face.

Second, an uncritical acceptance of the recently approved guidelines from the Food and Nutrition Board will exacerbate the already existing gap between the wealthy and the poor. In some jurisdictions, there is already a retreat of the fast-food industry in response to a vigorous assault from proactive parents. But these developments have been sporadic and isolated, and none has resulted in a model program across a whole school system. It is in this context that the Berkeley experiment holds great promise.

While integration of food into the curriculum has mainly occurred at grade and secondary school levels, our colleges and universities can also play an important role. The collection of baseline data at the outset of such a demonstration project is vital to convincing others about the utility of the model. Partnerships between local schools and nearby university research centers would begin to build bridges and provide needed continuity between educational levels for this "content and process" of engaged learning.

This type of program offers not only health benefits and improved educational outcomes,

but environmental and economic benefits as well. The School Lunch Initiative will procure, to the greatest extent possible, local, sustainably grown and raised foods. Imagine the purchasing power of a school district with ten thousand students. One school alone would require five hundred pounds of potatoes per day. The increased demand for organic produce would reduce pesticides in our topsoil and water supply, improve air quality, and provide significant economic stimulus to the community. As more middle schools and high schools around the country pursue these kinds of initiatives, students will increasingly demand similar programs when they enter colleges and universities. We already have some evidence of this.

### The Yale Sustainable Food Project

Yale University is the site of an engaged learning project that has captured the imagination of undergraduates and built upon the university's commitment to nurturing informed, responsible citizens. Beginning in 2001, a consortium of Yale students, faculty, and staff—responding to an initiative proposed by President Richard Levin and chef Alice Waters—founded the Yale Sustainable Food Project. An experiential learning program that brings food from the Yale garden to the Yale dining halls, the Sustainable Food Project is a lab for extended, sensory learning. As a result of the project, there is now a one-acre farm on campus—a launching site for accredited academic courses, informal workshops, and campus events highlighting food and agriculture. Through such activities, the project supports both hands-on knowledge of plant biology and careful long-term thinking about the relationship between economics and ethics.

The campus farm is simultaneously a productive market garden, a teaching space, and a testing ground for innovative agricultural

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practices. Each week, undergraduate and graduate students volunteer at the farm for experiential learning about the connection between food and the land. The project's summer internship offers six Yale undergraduates the opportunity to *engage* the theory and practice of sustainable agriculture, and to participate in the preparation, sharing, and celebration of food. This year, twenty students applied for the six intern positions. In an end-of-summer survey, each of the interns reported that the internship will strongly influence their life decisions.

Moreover, the project has fostered new avenues of academic exploration at the university. Student term papers, senior theses, and doctoral dissertations have explored the program's potential role across disciplines and its impact on the local economy. There has been a marked increase in courses related to food and agriculture in disciplines as diverse as biology, psychology, forestry, history, and political science. Over three hundred students enrolled in The Politics, Biology, and Psychology of Food, a course taught by Professor Kelly Brownell. A postdoctoral fellow is now examining the impact of sustainable food and the farm on students' well-being.

In collaboration with Yale University Dining Services, the project aims to develop partnerships with farmers to nourish the local residents and the local economy. In 2003, it began a test kitchen in one of Yale's undergraduate dining halls, Berkeley College, where the menu was revamped to reflect seasonality and sustainability. The experiment was such a success that students counterfeited identification to try to get into the dining hall. A year later, the program expanded, and today some local organic food is served at all of Yale's dining halls. Most significantly, in the 2004–5 academic year, the project diverted about $1.5 million dollars of Yale's food budget into the region's economy to support farmers, producers, and processors practicing sustainable methods. It should be clear that this project has the potential not just to transform diet and nutrition, but also to build public support for sustainable methods of food production.

The Yale experience is a viable "demonstration model" of the appeal of engaged learning—albeit one that now exists only in a small corner of the educational experience. But there are many other ways in which colleges and universities can nurture such projects and expand them to the mutual advantage of students, faculty, and local communities.

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As a point of entry, overseeing the collection of baseline data at the very beginning of these innovative programs is essential. Universities are well equipped to do early inventory-taking research that will help measure the effectiveness of such projects as the School Lunch Initiative. Nearby schools of public health, of medicine, and of education can begin by "taking the temperature" of the situation, documenting not only current levels of obesity and diabetes, but also current levels of student knowledge about nutrition.

The necessary step of convincing school boards around the country of the benefits of intervention is best achieved by university-based researchers publishing their results. This kind of vertical integration of engaged learning has considerable potential to deepen connections between higher education and K–12, and simultaneously to address issues of education and health.

Given the current crisis of childhood obesity and diabetes, an intervention which improves health and, by extension, increases opportunity for school success could not come at a more critical time. □

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REFERENCES

Bowen, S. 2005. Engaged learning: Are we all on the same page? *Peer Review* 7 (2): 4–7.

Campbell, T. C., and T. M. Campbell. 2004. *The China study*. Dallas: BenBella Publishing.

Food and Nutrition Board. 2002. *Dietary reference intakes for energy, carbohydrate, fiber, fat, fatty acids, cholesterol, protein, and amino acids*. Washington, DC: The National Academies Press.

Menand, L. 2001. *The metaphysical club*. New York: Farrar, Strauss, and Giroux.

*New York Times*. 2006. Bad blood: Diabetes in New York City. January 9–12.